

Application No: 10/783,417
Amendment Dated: June 1, 2004
Reply to Office Action of April 1, 2004
REPLACEMENT SHEET

[illegible][illegible]

FIG. 1A

axmi006	160	180	*	*	200	*	220		216
cry1Aa	ESIRKOLKQTLGEGROIQ-SANTATDDWRKLRLOAPGLPPSSALQQAALT	TKIRFENVHNDFTREIPGFQLE-							216
cry1Ac	EFARNQAIISRLGSLNLYQ-IVAESFREWEADPTN	-----PALREEMRIQENDMNSALTTATPLLAVQN--							152
cry1Ia	EFARNQAIISRLGSLNLYQ-IVAESFREWEADPTN	-----PALREEMRIQENDMNSALTTATPLLAVQN--							152
cry3Aa1	TYARNKAITDLKGLGDLA-VYHDSLESVGRNN	-----TRARSVMKSOYIALFELMFVQKLGSFAVSG--							180
cry3Ba	DYAKKALAELOGLONNVE-DIVSALSMMOKNPVS	-----RNPHSQGRIRELFSQAESHERNSMFSFAISG--							196
cry4Aa	EYAKSKALAELOGLONNFE-DYVNALDSMKKAPVNL	-----RSRRSQDRIRELFSQAESHERNSMFSFAVSK--							197
cry6Aa	STYISANKILNRSFNITS-TYHNHLKTKWENPN	-----PQNTQDVRTQIQIOMHYHFNQNVILPELVNSCPPN							195
cry7Aa	EYVRNKAIAELDGLGSALD-KYQKALADMLGKQDD	-----PEAILSVAATEFRITDSIFEFESMSFKVVTG--							179
cry8Aa	KYVKDKALAEIKGLGNALD-VYQOSLEDMLERNND	-----ARTSRVMSNOFIALDLNEVSSIJSFAVSG--							190
cry10Aa	KNILNVLTSIMTPIKNOTD-KYQEFDFKMEPARTH	-----ANAKAVHDIETTLPEIIDKDLMLKNNAS--							194
cry16Aa	EVIIRGNAIRTLADLOGKMD-DYNNWTKMKKDDP	-----KSTGNLSLTVTKETATDSDFNGAIRTVNNQSP-							193
cry19Ba	NDTLNRAISNLSGLNESLN-TYNRAALAAWKONK	-----NNFASGELTIRSYINDLHILFTRDIQSDFLG--							183
cry24Aa	ETILDGESSLGLVAIYNRDYLGALEAMNNKSN	-----INYQTNVAEAKTVEREFETTKLKGIRYTS--							182
	a	g	y	l	w	f	p		
axmi006	240	260	*	*	280	*	300		285
cry1Aa	TYKTILLPIYAQAANTHILNLTQOGAELADEWNADIHPSQIEPNAGTSDDYK-LLKENIPKYSNYQANTY								285
cry1Ac	YQVPLLSVYVOAANTHLSVTRDVSVFQ	-----QRMGFDAATINSRYN-DLTRLIGNYTDYAVRWY							211
cry1Ia	YQVPLLSVYVOAANTHLSVTRDVSVFQ	-----QRMGFDAATINSRYN-DLTRLIGNYTDYAVRWY							211
cry3Aa1	FEVPLLPITYAQAANTHLLLRDASIFG	-----KEMGLSSSEISTFYN-RQVERAGDYSDHCVKMWY							239
cry3Ba	YEVLFLLITYAQAANTHLLLRDASIFG	-----EEMGYEKEDIAEFYK-RQKLTQOETDHCVKMWY							255
cry4Aa	FEVLFLLITYAQAANTHLLLRDASIFG	-----EEMGYSSSEIDIAEFYK-RQKLTQOETDHCVKMWY							256
cry6Aa	PSDCDYNNILVLSYAQAANTHLLLRDASIFG	-----RQFDYLEPLPTAIDYXP-VLTKAIEDYTNICVITTY							268
cry7Aa	MIDDSKTLPRHSLIHTIKLSNKKYG	-----PGDMTNGNO--FIISKOEWATIGAXI							51
cry8Aa	YEIPLLTIVYAQAANTHLLLRDSTLYG	-----DKMGFTQNNIEENYN-RQKKRISEYSDHQTKMWY							238
cry10Aa	HEVILLIAYYAQAANTHLLLRDASIFG	-----EEMGFETPGELISRFYN-RQVQLTAEYSDYCVKMWY							249
cry16Aa	YRPTLPVYAQAANTHLLLRDASIFG	-----QGINPSTFNSSNYYQGYLKRKIQEYTDYCIQTY							260
cry19Ba	GYETILLPVYAQAANTHLLLRDASIFG	-----KWM SARANARDNYQO-IQLEKTEYETECINWY							254
cry24Aa	GYETIVLLPSYAQAANTHLLLRDVAIYQ	-----KEIGYPSIDVEFYFN-EQKYYTEKYSNYCVNTTY							243
	l	aqaan	HL	L	da	g	y	yc	
									239

FIG. 1B

3/6

FIG. 1C

axmi006 : 460 * 480 500 520
 cry1Aa : TELLYGERTGPTTKTIRPFESYKVSIVTDROSPVPSPIQ-PHFIINQIELYLNQSSNNTLKYSAGGSLSNYQNT : 491
 cry1Ac : AFPLFGNAGNAAPP-VLVSITGLGIFRITLSSPLRYRIILGSGPNNQE-LFVLDGTEFSFASLTTLNLPSTIYRQ-- : 404
 cry1Ia : TFRLYGTMGNAAPQQRIVAQLGQGVYRTLSSTLYRRPFN-IGINNQQ-LSVLDGTEFAYG-TSSNLPSSAVYRK-- : 403
 cry3Aa1 : EFRTIGGTLNISTQGSTNINPVTLPFTSRDVIYRTESLAGLNFLT-QPVNGVPRVDEHVKFVTHPIASDNFY : 439
 cry3Ba : RPSIGSNDIITSPFYGNKSSEPVONLEFNGEKVYRAVANTNLAWPS-AVYSGVTKEVEFSQYNDOTDEASTQTYD : 448
 cry4Aa : RPSIGSNDIITSPFYGDKSIEPIQKLSFDGQKVYRTIANTDIAAFPDGKIYFGVTKEVDEFSQYDDQKNETSTQTYD : 450
 cry6Aa : KSSVFGNHNVDKLSGLATNIYIFLLNVISLDNKNYLNNDYNNISKMDFFITNGTRLLEKELTAGSGQITTYDVNK : 471
 cry7Aa : QYEEAAKNIVTSLDQFLHGDOKKLEGVINIQRLKEVQALNQAHGE-SSPAHKELEKVKNLKTTLERTIKAEQ : 244
 cry8Aa : KSEQSNLYTIGIYKGTSGYISSGAYSFHGNDRYRTLAAPSVMYYPY-TQNYGVEQVEFYGVKGVHVRGDNKY- : 433
 cry10Aa : KYRRTADSTVITYTANYGRITSEKNSFALEDRIEINSTVANLANYY-QKAYGVPGSMHMKRGTSSTTAYLYS : 451
 cry16Aa : THINDDRNIIWGAHVHGNIIISQDTSKVFPFYRNKPIDKVEIVRHREYSDIYEMIFFSNSSEVFYSSNSTIENN- : 448
 cry19Ba : EGSFRGQDTDYGGTSSINIPSNVYNLWTEYIYYPWGDVPIITKMNFSVTDNNSKELIYGAHRTNKPVR : 451
 cry24Aa : NGPFLGQDTEYGGTSSYIDISNNSIYNLWTKNVEWIIYPTWDPVNIITKINFISITDNSNSESSEIYGAERMNKPVR : 455
 : GRIDVVMFRQIGDTAYEDPSTFISNIIYDDIYKDLRAAAVSTIQGAMDTTFGVSSSRFFDIRGRNQLYQSNKP- : 447

axmi006 : 540 * 560 580 600
 cry1Aa : -----TFFQFPRKKDCNIIVIDPGCSPNFNNYSHIILSHFSLFTYSYVIGLQILDTGVLGWTHTSSVDRYMAISD : 560
 cry1Ac : -----RGTVDSLVDIIPPQDNSVPPRAGFHRILSHVTMLSQAG--AVYTLRAPTFSWQHRSAEFNMILIPS : 467
 cry1Ia : -----SGTVDSLDEIIPPONNNVPPRQGFHRILSHVSMFRSGFSNS-SVSIIRAPMFSWIHRSAEFNNLIAS : 468
 cry3Aa1 : PGYAGIG--TQLQDSENELPPEATGQPNVESYSHRILSHIGLISAS-----HVKALVYSWTHRSADRWTWTEP : 504
 cry3Ba : SKR--NNGAVSWDSIDQLPPEPTTDEPLEKGYSHQNLNYMCFMQGS-----RGTPVLVLTWTHKSVDFEFNMIDS : 514
 cry4Aa : SKRY--NGYLGACQDSIDQLPPEPTTDEPLEKAYSHQNLNYAECFLMODR-----RGTPVFFTWTHRSVDFEFMTIDA : 517
 cry6Aa : N-----IFGLPIILKRRENQGNPTLFFTYDNYSHIILSFIKSLSIPAT-----YKTQVYIFAWTHSSVDPKNTIYT : 535
 cry7Aa : DLEKKVEYSFLLGPLLGFWVVEILENTAVQHIKNCIDELKKQLDSAQHDLDKRDVKIIGMLNSINTDIDNLYSQGQ : 319
 cry8Aa : -----DLTYDSIDQLPPEPDG--EPIHEKYTHRLCHATAIFKSTP--DYDNATIPFSWTHRSAEYNNRIYP : 494
 cry10Aa : KHTHALQGCTQVYESSEDEPLDRT-VEVAESYSHRILSHITSHSEKNG--SAYYGSFEPVFWTHTSADLNNTIYS : 523
 cry16Aa : -----YKRTDSYMIKPQOTWKNEEYGHITLSYIKTDNYIFSDDR--ERRRVAESWTHTSVDFQNTIDL : 507
 cry19Ba : -----TDFDFLTN-----KEGTELAKYNDYNIILSYMLINGETFGQ-----KRHGYSAFATHSSVDPNNTIAA : 509
 cry24Aa : -----TDFNFLIN-----RAGNGPTTYNDYNIILSYMLINGETFGQ-----KRHGYSAFATHSSVDRYNTIYP : 503
 : -----YPSLPITITTFGESESEGNANDYSHILCDKIKLQEDSSNICE-GRSSLSHAWTHASLDRNNTILP : 512
 : p p h 6 s th s d n i

FIG. 1D

```

axmi006 : K I T M P A K G N N D T N S K V I E G P G H T G G N L V L Q S Q G ----- R L E I T C E T P N S T O S F I R L R Y A T N G A G N T L :
cry1Aa : S O I T O I P L T K S T N I C S G T S V K G P G E T G G D I L R R T S P G ----- Q I S T L R V N L T A P L S O R Y R V R I R Y A S T T N L Q E H :
cry1Ac : D S I T O I P A V K G N F L F N G S V I S - G P G E T G G D L V R L N S S G N N I Q N R G Y I E V P I H F P S T S T R Y R V R I R Y A S V T P I H L N :
cry1Ia : N S I T O I P L V K A F N L S S G A A W R G P G E T G G D I L R R T N T G ----- T F G D I R V N P P F A Q R Y R V R I R Y A S T T D L Q E H :
cry3Aa1 : K K I T O I P L V K A Y K L Q S G A S W A G P R F T G G D I I Q C T E ----- N G S A A T I Y V T P D V S Y S Q K Y A R I F Y A S T S Q I T E T :
cry3Ba : E K I T O I P V K A Y A L S S G A S I I E G P G E T G G N L L F L K E S S ----- N S I A K F K V T L N S A A L Q R Y R V R I R Y A S T T N L R L F :
cry4Aa : H L T I O I P A V K A N S L G T A S K V W Q G P G H T G G D I L D F K D ----- H F K I T C Q H S N F Q O S F I R I R Y A S N G S A N T R :
cry6Aa : E A K V F Q L Q G I W A T I G A Q I E N L R T T S L Q E V Q D S D D A D E I Q I E L E D A S D A W L V V A Q E A R D F T L N A Y S T N S R Q N L P :
cry7Aa : N K I T K I P A V K M Y K L D D E S T V K G P G E T G G D L V R G S T G ----- Y I G D I K A T V N S P L S O K Y R V R I R Y A T N V S G Q E N :
cry8Aa : D K I T O I P A V K G D M Y L G G S V W Q G P G E T G G D I L K R T N P S ----- I L G T F A V T V N G S L S O R Y R V R I R Y A S T T D F E E T :
cry10Aa : D A I T O I H A L K A L K V S S D S K I V K G P G H T G G D I L M L K D S ----- M D F R V R F L K N V S R Q M O V R I R Y A T N A P K T T V :
cry16Aa : N K I T O I P V K A S S I N G S I S I E K G P G E T G G D L V K M R A D S ----- G L T M R F K A E L L D K Y R V R I R Y K C N Y S S K L I :
cry19Ba : D K I V O I P A V K T N I V G A N I I K - - G P G H T G G D I L K L E Y E R ----- F L S L R I K - L I A S M T F R I R I R Y A S N I S Q M M :
cry24Aa : D E I T O I P A V T A Y E L R G N S S V A G P G S T G G D L V K M S Y H S ----- V W S F K V Y C S E L K N Y R V R I R Y A S H G N C Q E L :
    itq pa k q r r r y a
    gp9f3996

```

```

axmi006 : P N I S L T I P G V I G T P P O R L N N T F S G T N Y N - N I Q G D F G Y F O F P S T V T L P L N R - - N I P F I E N R A D V S N - S I I I I D K I :
cry1Aa : T S I D G - - - - R P I N Q G N E S A T M S S G S - - - - N I Q S G S F R T V G E T T P E N F S N G - - - - S S V F T L S A H V F N S G N E V Y I D R I :
cry1Ac : V A N W G N - - - - S S I F S N T V P A T A T S L D - - - - N I Q S S D F C Y F E S A N A F T S S L G - - - - N - - - I V G V R N F S G T A G V I I D R F :
cry1Ia : T S I N G - - - - K A I N Q G N F S A T M N R G E - - - - D L D Y K T F R T V G E T T P F S E L D V - - - - Q S T F T I G A W N F S S G N E V Y I D R I :
cry3Aa1 : L S I D G - - - - A P F N Q Y Y E D K I I N K G D - - - - T L I Y N S E N L A S E S T P E E L S G - - - - N N L Q I G V T G L S A G D K V Y I D K I :
cry3Ba : V Q N S N - - - - N D F L V I Y I N K T M N I D G - - - - D L I Y Q T F D E A T S N S N M G F S G D - - - - T N D F I I G A E S F V S N E K I Y I D K I :
cry4Aa : A V I N L S I P G - - V A E L G M A L N P T F S G T D Y T N K Y K D F O Y L E F S N E V K L A P N Q - - N I S L V F N R S V Y T N T T V I I D K I :
cry6Aa : I N V I S D S C N C S T T N M T S N Q Y S N P T T N M T S N Q Y M I S H E Y T S L P N N E M L S R N - - - - S N L E Y K C P E N N F M I Y W Y N N S :
cry7Aa : V A I N D - - - - K I T L Q T K F Q N I V E T I G E G K D L I Y G S F G I E Y S T I Q F P D E - - - - H P K I T L H L S D L S N S S F Y V D S I :
cry8Aa : L M I G - - - - D T I E K N R E N K T M D N G A - - - - S L I Y E T F K F A S F I T D E Q F R E T - - - - Q D K I L S M Q D F S S G Q E V Y I D R I :
cry10Aa : F L T G - - - - I D T I S V E L P S T I S R Q N P N A T D L I Y A D E G V I T P R T V P N K T F E G E D T L M T Y G T P N H S Y N I Y I D K I :
cry16Aa : L R K W K G E - - - - G Y I Q Q I H N I S P T Y G - - - - A F S Y L E S F T I T T E N I F D L T M - - - - E V T Y P Y G R Q F E D I P S L I I D K I :
cry19Ba : I N I G - - - - - Y Q N P T Y F N I I P T T S R D - Y T E L K F E D F O L V D T S Y I Y S G G P - - S I S S N T L W I D N F S N G P V I I D K I :
cry24Aa : M K R W P S - - - - T G V A P R Q W A R H N V Q G T F S N S M R Y E A F K Y I D I F T I T P E N N - - - - - F A F T I D L E S G G D L F I D K I :
    y f
    l i

```

FIG. 1E

Application No: 10/783,417
Amendment Dated: June 1, 2004
Reply to Office Action of April 1, 2004
REPLACEMENT SHEET

axmi006	:	EFIP	IT	SS	MH	QN	RE	--	KQ	LE	ET	IO	TK	IN	FF	TN	HT	KT	TL	--	760	780	*	800	:	735		
cry1Aa	:	EEVP	AE	VT	FE	AE	YD	--	LE	RA	QK	AV	NEL	FF	TS	NQ	IG	EK	TD	VT	DY	HT	DO	VS	:	648		
cry1Ac	:	EEIP	VT	AT	LE	AE	YN	--	LE	RA	QK	AV	NAL	FF	TS	NQ	LG	EK	TN	VT	DY	HT	DO	VS	:	650		
cry1Ia	:	EEVP	VE	VT	YE	AE	YD	--	FE	KA	QK	AV	TAL	FF	TS	NP	RG	EK	TD	VT	DY	HT	DO	VS	:	685		
cry3Aa1	:	EEIP	VN	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	:	652		
cry3Ba	:	EEIP	VQ	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	:	659		
cry4Aa	:	EEFL	PI	TR	S	I	RE	DRE	KQ	KE	TV	QO	II	IN	TF	YAN	PI	KN	TL	QSE	LE	TD	YD	TD	QAA	:	722	
cry6Aa	:	DW	NN	S	D	WY	NN	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	:	475		
cry7Aa	:	EEIP	V	D	V	Y	AE	KE	K	---	LE	RA	QK	AV	N	TF	TE	GR	NA	LQ	KD	VT	DY	KW	DO	VS	:	677
cry8Aa	:	EEIP	V	DE	TT	YE	AE	QD	---	LE	AA	KK	AV	NAL	FF	IN	TK	D	GR	PG	VT	DY	EV	NQ	AA	:	702	
cry10Aa	:	EEIP	IT	Q	S	V	L	DY	TE	KQ	NT	FE	K	TQ	K	I	V	N	D	LF	VN	---	---	---	:	675		
cry16Aa	:	EEFL	PT	N	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	:	648		
cry19Ba	:	EEIP	LG	IT	LN	QA	QG	---	YD	TY	DQ	NAN	CM	YH	Q	NYS	NS	G	YN	YN	Q	EY	N	TY	YQS	:	679	
cry24Aa	:	EEIP	V	S	G	S	A	F	EY	E	G	KQ	NT	FE	K	TQ	K	AV	N	D	LF	VN	---	---	:	674		
		e5	p																									

e5 p n

FIG. 1F